



## Research Article

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# Internet Use among Jordanian Students with and without Learning Difficulties at Primary Schools

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## Abstract

*The main aim of this study is to explore the degree of Internet use among Jordanian students with and without learning difficulties at primary schools. Descriptive-analytical approach was utilized to achieve the study aims. The study sample consisted of (144) students from different primary schools in Jordan. A validated scale was developed to collect the data. SPSS software was employed to analyze the collected data; means, standard deviations, and t-test were calculated. Findings revealed that students with learning difficulties had good computer skills which were similar to students without learning difficulties. It also showed that there were no statistical significant differences in the skills of using the Internet, the degree of its use, the areas of use, and the problems that hindered their use attributed to the classification variable (with and without learning disabilities). This indicates that students with learning difficulties have skills and abilities to use the Internet in all areas, just as students without learning difficulties. The study, therefore, recommends making technological useful facilities available to the students with learning difficulties, to their teachers, and their parents.*

**Keywords:** Internet use, primary schools, students with learning difficulties

## 1. Introduction

Over the last decades, the interest in children with learning difficulties has been increased (Lee & Templeton 2008). Although it is well knowing that students with learning difficulties can perform well on intelligence scales, many of them are still not receiving appropriate educational services. Those

students encounter difficulties in acquisition of math, reading, and writing skills. Like other students, the Internet use can support students with learning difficulties in their education if it is appropriately available for them.

The definitions of the concept of learning difficulties varied because of the multiplicity of concerned scholars in this topic, whether in psychology or education. For example, Hallhan and Kauffman (2009) defined learning difficulties as a disorder in one or more of the basic psychological processes regarding the understanding or use of spoken or written language that affects listening, thinking, speaking, reading, writing, spelling, or arithmetic operations. This concept also includes sensory impairment, reading difficulties, and verbal aphasia. An exception is made for children who suffer from difficulties that may be caused by intellectual disability, cultural and social decline, visual, auditory, motor, or emotional difficulties.

Studies have also revealed that this category has several characteristics that need to be addressed, noting that this category is heterogeneous; therefore, the symptoms of learning difficulties among students are also varied. The most prominent of these characteristics are academic problems in reading, writing, and mathematics in addition to difficulties in sensory perception, motor perception, synergy, attention disorders, hyperactivity, memory problems, emotional and social problems, and motivation problems (Sakarneh, & Al-Swelmyeen, 2020; Lerner, 2000). In a point of fact, these characteristics affect the student's learning activity as most of them are described as being inactive in learning process and lacking the skills to use strategies that help them to learn. Their abilities are underestimated and do not possess the strategies that others use to solve problems (metacognitive skills) and all of these features hinder the individual's ability to work independently in the academic skills (Hallhan & Kauffman, 2009).

Recently, the interest in utilizing technological means in education, including computers and Internet webpages has increased and became part of any educational reform and movement (Alkhawaldeh, Hyassat, Al-Zboon & Ahmad, 2017; Heiman & Shemesh, 2012; Sakarneh, 2014). Therefore, the user of web page browsers must have several skills such as clicking mouse, familiarity with the rules of writing on the computer keyboard to type the page addresses in the address box ADDRESS properly, get acquainted with the components of the HOME PAGE index page for browsers. Following the links from one page to another until all information related to the search topic is obtained, going back and move forward on the pages that have previously entered on, using the tools found in the standard toolbars. Also, writing new addresses or adding some words to previous words in a research topic, reading the displayed page and distinguishing between texts, shapes, regular images, texts and images that act as interconnections, using the longitudinal and cross-cutting arrows to move the page so that he can view and read all the information on the displayed page -opening the different menus and employing the choices available in each of them, saving the addresses of pages or files of interest until returning to them, printing the required pages to get a copy by clicking the print button, save the important pages and sites on either the hard disk or floppy disk, send some pages by e-mail using the "send mail" command or the MAIL button, follow up on everything new about the displayed pages, use the help menu to obtain information about the Web (Ismail, 2003).

As a result of the technological development and the explosion of knowledge in the field of learning difficulties and the increased percentage of students who diagnosed as having learning difficulties, it has become necessary to address the topic of students' use of computers and Internet in terms of the nature of this use, whether there is a difference in using the Internet and computers between those with learning difficulties and the students without learning difficulties (Sakarneh, Paterson & Minichiello, 2016). Hence, it became important to pay close attention to the fact that students with learning difficulties, like their peers without learning difficulties, be able to take advantage of this technology in all aspects of their lives. Therefore, the current study conducted to answer the following questions:

1. What is the level of having basic computer skills and Internet use among students with and without learning difficulties?
2. To what extent do students with and without learning difficulties use social media?

3. What are the areas in which students with and without learning difficulties use the Internet?
4. What challenges do students with and without learning difficulties face in using the Internet?
5. Are there significant statistical differences at the level ( $\alpha = 0.05$ ) in degrees of: (basic skills for using the Internet, the degree of its use, areas of using social networks, and challenges of use) due to the classification variable: (with and without learning difficulties)?

## 2. Literature Review

By reviewing the characteristics of students with learning difficulties and the skills that must be available in the user of web pages, it can be noted that students with learning difficulties may face some challenges when utilizing the computer or the Internet. This is what we need to address in this research. Amer (2020) pointed out that there are two types of education adopt the use of the implementation of the Internet in learning; the first is that the education process is entirely based on the Internet, and the other form is the blended learning which is performed with the help of Internet-based activities. The researcher adds that both types contribute effectively to developing speaking, reading, and writing skills. Some studies have demonstrated that the use of the Internet in teaching students with learning difficulties has contributed successfully to the development of their abilities (Kent, 2016; Roberts, Crittenden & Crittenden, 2011). In an experimental study conducted by Englert et al. (2007), findings indicated that using the Internet increased the quantity and quality of written expression for students with learning difficulties. The report, which reviewed the results of experimental and quasi-experimental studies that investigated education using the Internet from 1996 to 2008, concluded that students who were taught by utilizing the Internet performed better than those who received their education in the conventional methods (Means et al., 2010).

Meyer's (2003) study investigated the effect of web pages on students learning process. She found that web pages had substantial influence on students learning situation and this was impacted by students learning style, gender, and motivation. While students with visual learning style did better when utilizing web pages, independent students did not; gender differences appeared to be similar to learning in the conventional situation, and higher motivated students could perform better than their peers. The literature also clarified the importance of using the Internet as a means of communication and information circulation that extended to many and complex fields and at different levels of specialization to respond to the requirements of all users of different ages, environments, and interests. The most important areas of using the Internet can be summarized as follows: communication, research, information circulation, marketing, personal growth, social interaction, fun, documentation, and education (Abood, 2007; Heiman & Shemesh, 2012).

Another study was conducted by Spink, Danby, Mallan, Butler (2009) aimed at investigating the search process through Google and the technical culture of young children enrolled in "preschool classes" or kindergartens. Video and tape recordings were used while the children were searching through the Google website in the classroom. The qualitative data was analyzed to identify the children's behavior during the search process on the Internet. The results showed that the children were performing a complex search through the Internet, including browsing, and using keywords in the process. Searching, query formulation and reformulation, relevant provisions, successive searches, multitasking information, and collaborative behaviors. The study also showed that the use of Internet search engines by young children is an important area of studies as teachers, web technology developers, and who are concerned can rely on when conducting or developing any children's educational program. It is noteworthy that, this study is the first of its kind that examined the interaction of young children with search engines over the Internet.

Mansour's (2004) study aimed at revealing the motives of using the Internet among a sample of students at the University of Bahrain. The findings indicated that the first motives for using the Internet were obtaining knowledge, having fun and recreation, and making friendships. The study also found that there were significant differences in the field of social integration according to the variable of 'duration of Internet use' in favor of who used the Internet for more than three years, and that 85% of

the Internet users were satisfied with the results of their use of the Internet.

Some studies have indicated the effectiveness of using the computer and the Internet in teaching students, including Wheeler, Waite, and Bromfield (2002), which dealt with enhancing creative thinking using internet technologies. It revealed new results regarding the nature of creativity in the context of computer-based learning environments. However, different studies have addressed children's interaction with effective technological games, such as the study of Luckin, Connolly, Plowman & Airey (2003). Their study described the experimental work that was completed by the project team of computers and electronic toys. The project aimed to investigate the nature of children's use of technology interactive games. The search-oriented interactive games included lovable cartoon characters with built-in sensors that can elicit reactions spoken by the game. In addition to the ability to play the game alone, the game can also be linked with desktop devices through a compatibility program using a wireless connection. When making such a link, the game provides hints and advice to children when playing this game with the accompanying game programs. If the game stops, the same hints, and tips would be available through an animated icon on the screen that represents the cartoon character.

In a matter of fact, although these games can contribute to learning, they are not always an attractive educational means and cannot alone constitute a sufficient and appropriate source for learning (Adam & Tatnall, 2017; Ramos-Galarza, Arias-Flores, C ndor-Herrera & Jad n-Guerrero, 2020). However, technology can play potential role in enabling children to master the multiple interfaces of the game and the screen, when the task requires it and provide appropriate assistance, and thus they will seek and use it. A likable interface experience can provide the advantage and potential for an enjoyable interface that can address the emotional and interactive dimensions of learners' interactions (Benmarrakchi, Elhammoumi & Jamal, 2019).

Previous studies have indicated that computers and the Internet have been able to meet the new requirements of the great developments in the field of population growth, information, technology, communication, and education (Alkhalwaldeh, Hyassat, Al-Zboon & Ahmad, 2017). The most important advantages provided by the computer and the Internet are the development of the means of communication, raising its efficiency, speed, and high accuracy, providing information and raising the level of the information product, facilitating human communication processes in societies where the communication technology using the Internet has many characteristics, including interactivity, mobility, prevalence and spread (Adam & Tatnall, 2017; Benmarrakchi, Elhammoumi & Jamal, 2019; Ramos-Galarza et al., 2020). Further, the content of any other media has become available in other media, and this leads to the disappearance of the differences between the means of mass communication, as well as providing wider learning opportunities. (United States. Congress. House. Committee on Energy and Commerce. Subcommittee on Oversight and Investigations. 2006).

Notwithstanding the advantages of using the computer and the Internet, they have also several disadvantages; the Internet has helped in spreading cyber crimes, the Internet can also be used for drug and weapons traffickers, and that the frequent use of computers and the Internet and depending on them on performing activities it leads to addiction to its use (Cash, Rae, Steel & Winkler, 2012). Sitting in front of a computer also has health risks to eyesight and the skeleton, which requires attention and prevention. Similarly, the increase in the use of computers and the Internet can lead to a weakening of the social connection and psychological difficulties (Kim, LaRose & Peng, 2009).

Several studies have also indicated the effects of computer and Internet use. A study by El Shourbagy (2005) showed that there were statistically significant differences between the number of hours that male and female children spent playing on the computer and the feeling of social isolation. Results showed that there were significant differences in the average hours per day in favor of males. One of the most common reasons for isolation is the feeling of loneliness and the aversion to communicate with others since the introduction of the computer into one's life became his alternative self. Milliron (2004) conducted a study that aimed to reveal the educational-behavioral risks that resulted from using the Internet; it was warned that the acceleration of its spread among users will lead to a risk on the personal as well as the professional level. The results concluded with a future vision,

which is a focus on education and holistic thinking about the risks that threaten technology and education.

Al Samry's study (2003) aimed at identifying the effect of children's use of the Internet on its relationship with parents and the appropriate method for dealing with the Internet users. A sample of 105 children between (8-18) years old in the language school in Cairo Governorate and their parents was recruited. The results showed that there was a difference in motivations between children and adolescents' use, as Internet games ranked first by (95.2%) for entertainment, challenge, competition, or playing with friends and relatives. It was also showed that the motive behind using the Internet was varied according to the age, the adolescents used the Internet to search for information and chat rooms. The findings indicated that there were statistically significant differences between males and females in favor of males in terms of the ability to use the Internet, as males use it for entertainment and games, while females use it for learning education, sending an e-mail, and to communicate through chat rooms. The study results pointed to the superiority of children over fathers in using the Internet, and that parents saw that the Internet has played a negative role in communication between them and their children which caused a gap between them.

Livingston's (2004) study aimed to identify the problems of British children resulted from the use of the Internet on a sample of 1511 children aged 9-19 years and 906 parents. The results showed that 16% of parents believed that their children have browsed porn sites. While 57% of adolescents follow pornographic sites, children are aware of the methods of safety on the Internet. The parents needed to be aware of how to talk about the pros and cons, and the good and bad experiences that can be experienced while using the Internet. 46% of children gave their information to some authorities in the network, 5% of parents were aware of this matter, and many children did not have an option to enter their data when they downloaded some programs or use some websites and register with them.

### 3. Methods and Procedures

#### 3.1 Study approach

A descriptive and analytical approach was used to explore students' use of the Internet utilizing a questionnaire administered to the study sample.

#### 3.2 Study Sample

The study sample comprised of students with and without learning difficulties in the middle-basic stage at the schools of the Ministry of Education and the private schools of Amman Governorate (Amman Second Directorate) and Salt City. The sample was chosen purposefully consisting of (144) students including (79) students without learning difficulties and (65) students with learning difficulties.

#### 3.3 Study Instrument

The researchers developed a scale to identify students' use of computers and the internet. The scale consists of five areas: Computer and Internet basic skills, communication programs, areas of use, entertainment, and the problems they face when using the Internet. The researchers followed the following procedures to develop the study instrument:

First: Reviewing the previous theoretical literature such as Abood (2007) and through identifying the steps for using well-known social media such as (Facebook, Skype, E-Mail) and others.

Second: Initiating the scale items clearly and with proper grammar.

Third: Sending the initial scale's items (49) to four referees working as university professors specializing in special education to check the items and to suggest any amendments or any required changes.

Fourth: Making a final review, paraphrasing some items according to the referees' suggestion, and deletion inappropriate items.

Fifth: The scale items were developed in its final version; this includes two parts:

- General information about the students.
- Students' use of computers and the internet.

Content validity of the study instrument was checked by expert evaluation, the experts suggestions were taken into account. Some items were revised and modified while others were deleted according to the referees' recommendations. The Cronbach's alpha was used to check the reliability of the tool, where the value of the reliability coefficient = 0.89, which is considered to be an acceptable value for achieving the purposes of the study.

### 3.4 Procedures

The required approval for the implementation of the study was obtained from the Ministry of Education and its departments. The questionnaire, then, was sent to the targeted schools with emphasizing that teachers would help the students in clarifying the responding process to the questionnaire. The questionnaire copies that filled in by the students were collected in order to be statistically treated.

### 3.5 Statistical Analysis

To obtain the results, SPSS software was used to calculate means and standard deviations of the students' scores on the scale, and t-test was used for independent samples to identify differences in the Internet usage scores according to the classification variable (with and without learning difficulties).

## 4. Results

Results of the first question: What is the level of having basic computer skills and Internet use among students with and without learning difficulties?

**Table (1):** Having basic computer skills and Internet use for Students with and without learning difficulties arranged in descending order

Students with learning difficulties				Students without learning difficulties			
Item	Mean	SD	Degree	Item	Mean	SD	Degree
1	2.96	.25	High	1	2.93	.35	High
16	2.83	.44	High	2	2.90	.43	High
2	2.81	.50	High	16	2.78	.60	High
10	2.70	.60	High	11	2.72	.68	High
13	2.61	.72	High	10	2.68	.69	High
14	2.57	.73	High	3	2.68	.71	High
11	2.53	.73	High	13	2.63	.68	High
3	2.51	.77	High	12	2.62	.75	High
15	2.50	.77	High	14	2.60	.71	High
4	2.50	.71	High	4	2.59	.71	High
12	2.45	.78	High	15	2.39	.86	High
7	2.41	.80	High	9	2.39	.84	High
9	2.40	.79	High	7	2.37	.81	High
6	2.36	.68	High	5	2.37	.73	High
5	2.36	.68	High	8	2.29	.82	Moderate
8	2.28	.77	Moderate	6	2.19	.72	Moderate
Total	2.55	.42	High	Total	2.57	.49	High

Table (1) illustrates that students with learning difficulties have a high level of basic skills for using the Internet, as the total mean came with a high degree and with a mean = 2.5528. The mean for all the items ranged between (2.9610 - 2.2857) and with a high degree, where the level of all the skills is high except for item (8) which came with a mean= 2.28 and a moderate degree. These results reveal that students with learning difficulties have high basic skills for using the computer and the Internet. Table (1) shows that the level of basic skills for using the Internet among students without learning difficulties came with a high degree and a total mean= 2.5758 where the means for all the items ranged between (2.1967-2.9344), and they all came with a high degree. All the skills came at a high level except items (6). This indicates that students without learning difficulties also have high abilities to use computer and Internet.

The results of the second question: To what extent do students with and without learning difficulties use social media?

**Table (2):** The extent to which students with and without learning difficulties use social media

Students with learning difficulties				Students without learning difficulties			
Item	Mean	SD	Degree	Item	Mean	SD	Degree
27	2.62	.58	High	27	2.68	.64	High
24	2.49	.59	High	25	2.67	.70	High
23	2.49	.55	High	23	2.52	.62	High
25	2.49	.70	High	28	2.50	.64	High
26	2.48	.66	High	26	2.49	.80	High
28	2.45	.63	High	24	2.45	.62	High
18	2.37	.66	High	18	2.44	.74	High
29	2.36	.55	High	17	2.32	.65	Moderate
17	2.36	.60	High	29	2.31	.62	Moderate
30	2.35	.55	High	30	2.26	.60	Moderate
22	2.31	.63	Moderate	20	2.22	.73	Moderate
32	2.28	.58	Moderate	22	2.19	.65	Moderate
21	2.28	.62	Moderate	31	2.18	.64	Moderate
31	2.28	.53	Moderate	19	2.13	.78	Moderate
19	2.28	.66	Moderate	32	2.08	.61	Moderate
20	2.27	.68	Moderate	21	2.06	.73	Moderate
Total	2.38	.40	High	Total	2.34	.39	High

By examining table (2), we can notice that students with learning difficulties utilize social networking sites at a high degree as the total mean for using social media (2.38). Also, the mean of the items regarding the use of social media ranged between (2.2727-2.6234). All the skills recorded a high degree of use except item (19), and this indicates that students with learning difficulties have high abilities to utilize social media. Table (2) also shows that students without learning difficulties utilize social networking sites at a high degree as the total mean was (2.3463) and with a high degree. All the skills were also coming with a high level of use except item (20), and this indicates that students without learning difficulties use social networking sites to a high extent.

Results of the third question: What are the areas in which students with and without learning difficulties use the Internet?

**Table (3):** Areas of using the Internet for students with and without learning difficulties

Students with learning difficulties				Students without learning difficulties			
Item	Mean	SD	Degree	Item	Mean	SD	Degree
39	2.68	.63	High	39	2.75	.623	High
43	2.54	2.38	High	40	2.60	.71	High
35	2.50	.71	High	43	2.47	.74	High

Students with learning difficulties				Students without learning difficulties			
40	2.49	.70	High	42	2.45	.67	High
33	2.44	.76	High	35	2.44	.82	High
34	2.40	.71	High	44	2.42	.76	High
42	2.37	.66	High	41	2.27	.71	Moderate
36	2.36	.68	High	33	2.26	.79	Moderate
44	2.32	.80	Moderate	37	2.24	.74	Moderate
45	2.31	.74	Moderate	38	2.22	.69	Moderate
38	2.31	.69	Moderate	36	2.21	.75	Moderate
37	2.29	.70	Moderate	34	2.16	.82	Moderate
41	2.20	.65	Moderate	45	1.83	.71	Moderate
Total	2.40	.44	High	Total	2.33	.44	Moderate

Table (3) shows that the overall mean of the areas of using the Internet for students with learning difficulties is high with a mean (2.40), and the means for all items ranged between (2.6883 - 2.2078). All skills came with a high degree except item (41) which indicates that students with learning difficulties have a high level of using the Internet. Table (3) also shows that the areas of using the Internet for students without learning difficulties came with a moderate degree and total mean (2.3380). The means of all items ranged between (2.7541 - 1.8361) and with a moderate degree.

Results of the fourth question: What challenges do students with and without learning difficulties face in using the Internet?

**Table (4):** Challenges facing students with and without learning difficulties in using the Internet

Students with learning difficulties				Students without learning difficulties			
Item	Mean	SD	Level	Item	Mean	SD	Level
46	2.19	.70	Moderate	48	2.08	.80	Moderate
47	2.15	.62	Moderate	46	2.04	.76	Moderate
49	2.11	.56	Moderate	49	2.01	.43	Moderate
48	2.06	.74	Moderate	47	2.00	.77	Moderate
Total	2.13	.51	Moderate	Total	2.02	.57	Moderate

Table (4) shows that the overall challenges facing students with learning difficulties in using the Internet came to a moderate degree, with a total mean (2.1331). It can be also noticed that all items which ranged between (2.1948 - 2.0649) came with a moderate degree. On the other hand, Table (4) also explains that the overall challenges that students without learning difficulties face regarding the use of the internet were moderate and the mean of all items ranged between (2.0820-2.0000); this indicates students without learning difficulties face moderate level of challenges when utilizing the Internet.

The results of the fifth question: Are there significant statistical differences at the level ( $\alpha = 0.05$ ) in degrees of: (basic skills for using the Internet, the degree of its use, areas of using social networks, and challenges of use) due to the classification variable: (with and without learning difficulties)?

To answer this question, t-test value was calculated for independent samples to detect differences in the degrees of internet usage according to the classification variable (with and without learning difficulties), as shown in Table (5).

**Table (5):** T-test results for independent samples to detect differences in Internet usage scores according to the classification variable (with and without learning difficulties)

Areas of Internet usage	Classifications	NO.	Mean	SD	T	DF	Sig
Skills	with learning difficulties	77	2.5528	.42980	-.293-	136	.770
	without learning difficulties	61	2.5758	.49491			



Areas of Internet usage	Classifications	NO.	Mean	SD	T	DF	Sig
Communication	with learning difficulties	77	2.3888	.40500	.620	136	.536
	without learning difficulties	61	2.3463	.39307			
Areas of use	with learning difficulties	77	2.4056	.44446	.888	136	.376
	without learning difficulties	61	2.3380	.44462			
Challenges	with learning difficulties	77	2.1331	.51393	1.122	136	.264
	without learning difficulties	61	2.0287	.57753			

Table (5) illustrates that there are no significant statistical differences in the skills of using the Internet, the degrees of use, the areas of use, and the challenges that hinder its use according to the classification variable (with and without learning difficulties). This may indicate that students with learning difficulties have the skills, and the abilities to utilize the Internet in all areas similar to the students without learning difficulties.

## 5. Discussion

The results show that the degree of basic skills for using the Internet and social networking sites among students with learning difficulties and their peers without learning difficulties came to a high degree. This seems to be consistent with Fichten's et al (2001, p205) findings who stated that "the vast majority of college and university students, regardless of sex, age, program of study, or type of disability, can and do use computers and the internet to carry out their school work". This could be justified by the assumption that students at different ages in this era generally use modern technology for education, entertainment, and to communicate with their peers regardless to the tools that they use. Nowadays most people can use and access freely the Internet through their smartphones, PC, tablet, computers to socialize, or to search for information regardless of their mental conditions or learning difficulties. Apparently, this confirms the statement of Chadwick, Wesson and Fullwood (2013, p.378) stated that "No longer is access to the Internet considered a luxury, instead it is an integral and important life survival tool which can make life more enjoyable and empower individuals". However, students with learning difficulties in Heiman and Shemesh's (2012) research used the internet materials and were more skilled of using the internet than non-disabled peers.

The challenges of using the Internet among students with and without learning difficulties came with a moderate degree, indicating that, the results are close. Kent (2016) found that students with learning difficulties were more likely to experience higher levels of challenges associated with using the Internet in education than other students. Those students might have a perception that their disability could negatively influence their abilities to be successful in using the internet (Roberts, Crittenden & Crittenden, 2011). The findings of Lee and Templeton's (2008) study could be applied to students with learning difficulties in this study; they found several challenges that faced students with disabilities to access technological tools. That included financial issue, familial involvement, lacking the appropriate tools, and absence of qualified professionals. Further, Alkhalwaldeh et al. (2017) found that preschool teachers did not clear awareness and views of the effective roles that can the internet use play in education.

## 6. Conclusion

We seek in this study to explore internet use among Jordanian students with learning difficulties at primary schools. The results show that although students with learning difficulties are skilled as well as students without disabilities in using computer and internet, they encounter numerous challenges. We highly insist making technological useful facilities available to the students with learning difficulties, to their teachers, and their parents. Also, it is highly important to offer appropriate training for them.

This research highlights important areas to be investigated by future research. This includes exploring parents and teachers perceptions of internet use, determining the effective ways of utilizing internet for students with learning difficulties, and more importantly, enacting legislation to make technological tools imperative in education.

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